

Claim Objections – Claim 21

It is unclear how the Office objects to claim 21: clarification is thus sought. Second, the Office's asserted references do not teach or suggest the features in claim 21. Applicant respectfully points out that the claim patentably distinguishes over the cited references and one possessing ordinary skill in the art would readily understand the claim as presented. That being said, Applicant respectfully points out that the Office's interpretation should not be construed as limiting for purposes of prosecution. Applicant respectfully points to MPEP § 904.01:

The breadth of the claims in the application should always be carefully noted; that is, the examiner should be fully aware of what the claims do not call for, as well as what they do require. During patent examination, the claims are given the broadest reasonable interpretation consistent with the specification. See *In re Morris*, 127 F.3d 1048, 44 USPQ2d 1023 (Fed. Cir. 1997).

Separately, Applicant respectfully refers the Office to MPEP § 2111. Applicant thanks Examiner Lashley for identifying patentable subject matter but respectfully points out that the Office's suggested amendment to make allowable claim 6 (namely to include the language of dependent claims 13 & 14, see Interview Summary dated April 25, 2008) makes the comments in connection with the *rejection* for claim 21 unclear. Applicant contends claim 21 and the other pending claims are of a pioneer nature and respectfully submit that the claims be "given their broadest reasonable interpretation consistent with the specification." Cited here for reference, MPEP § 2111:

CLAIMS MUST BE GIVEN THEIR BROADEST REASONABLE INTERPRETATION

During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." >The Federal Circuit's *en banc* decision in *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the 'broadest reasonable interpretation' standard:

The Patent and Trademark Office ('PTO') determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction 'in light of the specification as it would be interpreted by one of ordinary skill in the art.' *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004). Indeed, the rules of the PTO require that application claims must 'conform

to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.' 37 CFR 1.75(d)(1).

415 F.3d at 1316, 75 USPQ2d at 1329. See also *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969) (Claim 9 was directed to a process of analyzing data generated by mass spectrographic analysis of a gas. The process comprised selecting the data to be analyzed by subjecting the data to a mathematical manipulation. The examiner made rejections under 35 U.S.C. 101 and 102. In the 35 U.S.C. 102 rejection, the examiner explained that the claim was anticipated by a mental process augmented by pencil and paper markings. The court agreed that the claim was not limited to using a machine to carry out the process since the claim did not explicitly set forth the machine. The court explained that 'reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from 'reading limitations of the specification into a claim,' to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim.' The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the 'PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant's specification.').

The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999) (The Board's construction of the claim limitation 'restore hair growth' as requiring the hair to be returned to

its original state was held to be an incorrect interpretation of the limitation. The court held that, consistent with applicant's disclosure and the disclosure of three patents from analogous arts using the same phrase to require only some increase in hair growth, one of ordinary skill would construe 'restore hair growth' to mean that the claimed method increases the amount of hair grown on the scalp, but does not necessarily produce a full head of hair.).

The Claims:

Applicant reserves the right to pursue the subject matter of the original claims in this application and in other applications. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-5 (canceled)

6. (previously presented) A method for protecting a digital signal, comprising the steps of:

providing a digital signal comprising digital data and file format information defining how the digital signal is encoded;

creating a predetermined key to manipulate the digital signal; and

manipulating the digital signal using the predetermined key to generate at least one permutation of the digital signal parameterized by the file format information defining how the digital signal is encoded.

7. (original) The method of claim 6, wherein the digital signal represents a continuous analog waveform.

8. (original) The method of claim 6, wherein the predetermined key comprises a plurality of mask sets.

9. (original) The method of claim 6, wherein the digital signal is a message to be authenticated.

10. (previously presented) The method of claim 6, wherein the predetermined key comprises a key pair comprising a public key and a private key.

11. (original) The method of claim 6, further comprising the step of: using a digital watermarking technique to encode information that identifies

ownership, use, or other information about the digital signal, into the digital signal.

12. (original) The method of claim 6, wherein the digital signal represents a still image, audio or video.

13. (previously presented) The method of claim 6, wherein the predetermined key comprises one or more mask sets having random or pseudo-random series of bits, the method further comprising the step of:

validating the one or more mask sets before manipulating the file format information using the predetermined key.

14. (previously presented) The method of claim 6, wherein the predetermined key comprises one or more mask sets having random or pseudo-random series of bits, the method further comprising the step of:

validating the one or more mask sets after manipulating the file format information using the predetermined key.

15. (previously presented) The method of claim 6, wherein the predetermined key comprises one or more mask sets having random or pseudo-random series of bits, the method further comprising the steps of:

generating a hash value using the one or more masks sets; and

authenticating the one or more mask sets by comparing the generated hash value with a predetermined hash value.

16. (previously presented) The method of claim 13, wherein said step of validating comprises the steps of:

generating a digital signature using the one or more mask sets; and

comparing the digital signature with a predetermined digital signature.

17. (previously presented) The method of claim 6, wherein the predetermined key comprises one or more mask sets having random or pseudo-random series of bits, the method further comprising the step of:

authenticating the one or more mask sets by comparing a generated digital signature with a predetermined digital signature.

18. (original) The method of claim 13, further comprising the step of:

using a digital watermarking technique to embed information that identifies ownership, use, or other information about the digital signal, into the digital signal; and

wherein said step of validating is dependent on validation of the embedded information.

19. (previously presented) The method of claim 6, further comprising the step of:

computing a secure one way hash function of data in the digital signal, wherein the secure one way hash function is insensitive to changes introduced into the digital signal during the step of file format manipulation.

20. (previously presented) A method for protecting a digital signal, comprising the steps of:

providing a digital signal comprising digital data and file format information describing how the digital signal is encoded;

creating a predetermined key comprising a mask set;

manipulating the digital signal using the predetermined key wherein the manipulation is parameterized by the file format information describing how the digital signal is encoded;

authenticating the predetermined key during playback of the digital data; and

metering the playback of the digital data to monitor content.

21. (previously presented) The method of claim 20, wherein the predetermined key is authenticated to authenticate message information.

Claims 22 - 29 (canceled)

30. (previously presented) A method for protecting digital data, where the digital data is organized into a plurality of frames, each frame having i) a header comprising file format information and ii) at least a portion of the digital data, said method comprising the steps of:

creating a predetermined key to manipulate the file format information in one or more of the plurality of frames wherein the file format information defines how the digital data is encoded; and

manipulating the file format information using the predetermined key in at least two of the plurality of frames wherein the file format information defines how the digital data is encoded, such that the digital data will be perceived by a human as noticeably altered if it is played without using a decode key to restore the file format information to a prior state.

31. (previously presented) The method of claim 30, wherein the predetermined key comprises a private key that is associated with a key pair.

REMARKS/ARGUMENTS

The Applicant appreciates the time and consideration for the telephonic interviews taken by Examiner Lashley to discuss the pending claims on or about April 8, 2008 & April 24, 2008. The Office Action of January 9, 2008 & January 22, 2008 were confirmed as being the "same" – the January 22, 2008 non-final Office Action is the correct paper as that term is understood. During the interviews Claims 6 - 21 and Claims 30 - 31 and the references were discussed. Applicant greatly appreciates identification of patentable subject matter, as per the April 25, 2008 Interview Summary, but respectfully traverses the Office's assertion that the cited references disclose or suggest all elements of the claims.

Claim 6, as discussed during the interview, is listed above, and recited here:

"A method for protecting a digital signal, comprising the steps of:

providing a digital signal comprising digital data and file format information defining how the digital signal is encoded;

creating a predetermined key to manipulate the digital signal; and

manipulating the digital signal using the predetermined key to generate at least one permutation of the digital signal parameterized by the file format information defining how the digital signal is encoded."

As discussed during the interview, Bond et al. allegedly describes access restriction for a video in a pay-tv system & Stringer allegedly describes access restriction by denaturing material with wrapping. Neither reference discloses nor suggests (1) creating keys or (2) manipulation of signals with keys. It is the Applicant's position that one of ordinary skill in the art would understand the claim language as presented and the claims patentably distinguish over the references. For these additional reasons the claims are allowable over the art.

Rejections under 35 U.S.C. § 102

§ 102(b) Rejections based on U.S. Patent 4,390,898 ("Bond")

Independent Claim 6-7, 9, 10-12, and 30-31 stands rejected as allegedly anticipated by U.S. Patent No. 4,390,898 issued to Bond et al. (hereinafter "Bond"). See Page 3 of the non-final Office Action dated January 22, 2008. Applicant received confirmation that the January 22, 2008 paper is the correct paper during the Interview[s], as previously discussed.

Claims 6-7, 9, 10-12, and 30-31

In order for a reference to anticipate a claim, the reference must disclose each and every feature of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation. See *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999); *In re Paulsen*, 30 F.3d 1475, 1479, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994). Previously Presented Independent Claim 6 recites [emphasis added]: "A method for protecting a digital signal, comprising the steps of: providing a digital signal comprising digital data and file format information defining how the digital signal is encoded; creating a predetermined key to manipulate the digital signal; and manipulating the digital signal using the predetermined key to generate at least one permutation of the digital signal parameterized by the file format information defining how the digital signal is encoded." A prima facie case for anticipation cannot be made for at least the reason that Bond neither teaches nor anticipates (1) "creating a predetermined key that manipulates the digital signal".

The Section 102 rejection of Claim 6 is also improper for at least the additional reasons that Bond fails to disclose or anticipate (2) "manipulating the digital signal using the predetermined key" and (3) "generat[ing] at least one permutation of the digital signal parameterized by the file format information defining how the digital signal is encoded". Previously Presented Independent Claim 30 similarly recites, "creating a predetermined key" amongst other claim elements not disclosed or anticipated by Bond or the prior art.

The Office contends Bond discloses the claim features. Applicant respectfully traverses. First, Bond does not teach manipulation of digital signals – Bond allegedly relates to access restriction by producing "unwatchable" video. Bond at Col. 2 ll. 37 – 62, recites [emphasis added]:

Thus the conventional vertical synchronizing information of the video signal is completely replaced, in the scrambled video signal, by dummy video signal lines which are indistinguishable by a

conventional television receiver from the normal video signal lines of the video signal. In consequence, without unscrambling, a television receiver supplied with the scrambled video signal would produce a vertically unsynchronized and *unwatchable* picture.

The separately provided information conveniently indicates the start of each replaced vertical interval, and is conveniently provided as part of the scrambled video signal. Preferably the information is modulated onto horizontal line synchronizing information forming a part of each video signal line. In this case the scrambled video signal reproduced on a conventional television receiver without unscrambling is not only vertically unsynchronized but also largely horizontally unsynchronized, making it *even more unwatchable*.

In order to provide further security to a pay TV system using this method of scrambling, the information is preferably encoded in accordance with an encryption key, which can be recurrently changed and provided only to authorized subscribers of the pay TV system to enable proper unscrambling of the scrambled video signal.

For argument's sake, Bond's alleged key encrypts the "separately provided information" *alone*. Thus, Applicant is not clear on how the Office interprets Bond in view of the claims as supplemented by the specification and asks for guidance on whether Bond is analogous art, as that term is understood. For instance, Bond is also directed at video alone. Second, as argued previously, the instant claims relate to a pioneer area of data security, Specification at Paragraph [0023] recites, for example and presented here for convenience under MPEP § 2111:

Increased security is achieved in the method by combining elements of "public-key steganography" with cryptographic protocols, which keep in-transit data secure by scrambling the data with "keys" in a manner that is not apparent to those with access to the content to be distributed. Because different forms of randomness are combined to offer robust, distributed security, the present invention addresses an architectural "gray space" between two important areas of security: digital watermarks, a subset of the more general art of steganography, and cryptography. One form of randomness exists in the mask sets that are randomly created to map watermark data into an otherwise unrelated digital signal. The second form of randomness is the random permutations of data formats used with digital players to manipulate the content with the predetermined keys. These forms can be thought of as the transfer function versus the mapping function inherent to digital watermarking processes.

Simply, Bond is apparently directed at access restriction not manipulation of signals with keys, including, *inter alia*, audio, text, software, etc. as recited by the claims. Applicant respectfully points to 37 C.F.R. § 1.104(c)(2): "In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified."

Because Bond does not disclose or anticipate (1) "creating a predetermined key that manipulates the digital signal"; (2) "manipulating the digital signal using the predetermined key"; or (3) "generat[ing] at least one permutation of the digital signal parameterized by the file format information defining how the digital signal is encoded" Bond cannot be considered prior art. In view of the above comments, it is respectfully submitted that the cited reference does not anticipate the invention[s] as claimed. Thus, the Applicant respectfully requests the Section 102 rejections be withdrawn for Independent Claim 6 & 30 (and all claims depending therefrom). The claims that depend therefrom, namely, Claims 7, 9, 10-12, & 31 are also allowable. The Applicant's silence as to the Examiner's comments is not indicative of acquiescence to the stated grounds of rejection.